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AUTHOR Artwohl, Susan L.
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ABSTRACT

Studies using human figure drawing as a measurement technique are reviewed as part of an inquiry concerning the effectiveness of instruction to improve children's body image. It is concluded that the findings reviewed are inconclusive as to whether instruction can improve children's perceptions and knowledge of body image, and that further research is needed. (RH)

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The Correlation between Instruction in Body Part Relationships and Children's Body Image

by

Susan L. Artwohl

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Children's drawings as a means of evaluation have been studied for nearly one hundred years. Psychologists and educational researchers have used them as a way to evaluate cognitive development and to correlate intelligence and development. Studies to date, for the most part, have dealt with children's perceptions as they were. Little research, however, has been conducted to study the effects of instruction in body part relationships on improving children's knowledge of body image. Studies which do exist are contradictory or lack conclusive findings. When Florence L. Goodenough developed her Draw-A-Man Test in 1926, successfully showing the existence of a correlation between intelligence and the development of children's drawings, research took on new meaning.

Today, researchers are beginning to look toward the need for study in the area of improved familiarity of body image. A study of this type could add information to the state of knowledge which already exists. It could also provide additional support to the theory that instruction can improve knowledge of body image. A study of this type could also confirm the effectiveness of a program of instruction. Research of this area would be of value not only to psychologists and educational researchers, but to classroom teachers, and physical

education teachers, in their organization of a physical education program, as well. It is for these reasons that this study is proposed.

Emphases and Subjects in Research

Early developmental studies by Perez (1888),Maitland (1895), Clark (1902), and Luquet (1913), were basically descriptive, but did investigate the mental development of children using human figure drawings. Claparede' (1907) conducted a study of the developmental stages in drawing. His goal was to find if there was a relationship between aptitude in drawing and intellectual ability. He found there was a positive correlation. Following Claparede''s study, Goodenough (1926), Harris (1936), and Vane (1968) each developed a tool to measure intelligence using children's drawings. K. Machover (1949) studied projections of personality traits in drawings of human figures.

Research where normal adults bodies were used to test their body perception has been conducted by Pollack,Karp,Kahn and Goldfarb (1962); Arnhoff (1964); and Orbach,Traub, and Olson (1966). A study by Witkin (1968), using blind subjects, found they were able to form a recognizable human figure from clay, presumably because of their tactile exploration of dolls and human figures. Learning disabled children's human figure drawings were the subject of a study by Wagner (1970). Israelite (1936) studied drawings by normal and mentally defective children. His findings showed that, generally, defective children scored better than normal children in terms of number of details shown, but normal

children did better when it came to organization and proportion of parts. These same conclusions were reached in a study conducted by Spoerl (1940) . In a study over several years, Schuyten (1901,1904,1907) attempted to set a series of age norms in regard to children's perception of the human figure. He found that as the children got older, their proportion of body parts became more realistic. These findings were supported in a study conducted by Lobsien (1905) using drawings done by school children at Kiel. He also compared drawings of mentally defective age mates and found their sense of proportion of body parts was inferior to that of normal children. It would be interesting to conduct replication studies like those which have been done, providing instruction in body part relationships, and comparing the results with those obtained by the subjects in the original studies to see if instruction can improve knowledge of body image with these groups.

The Use of the Human Figure in Research

When trying to evaluate the cognitive, intellectual, or perceptual development of children it is often a good idea to use something with which they are familiar. For this reason, the human figure is used quite often. The fact that children choose to draw the human figure has been the subject of numerous studies.

Maitland (1895) investigated preferences in drawings by 1,570 children. She found that, up to the age of ten, the human figure was the subject most frequently chosen. In a study conducted by Ballard (1912) involving 20,000 children, the human figure was highly preferred by children aged three to six. The Cleveland Studies (1939) found a strong preference for the human figure in

drawings by children aged six to nine. Studies by Lukens (1896) and Luquet (1913) also support these findings. McCarty (1924) reviewing the preferences of children in grades kindergarten through second found the human figure to be the most frequently chosen subject. In a three year longitudinal study conducted by Martin (1939), people were named as the subjects more often represented. Given the fact that children so often choose to draw the human figure, it seems to me to be of importance that their representations be as accurate as possible. Instruction in body part relationships could certainly be of help in this regard.

Children's Perceptions and Representations of the Human Figure

The most detailed study of children's drawings was conducted by Gertrud Meili-Dworetzki (1957). The results of her study showed that subjects did not use uniform representations of the human figure. Also of significance was the fact that representations by the same subject varied somewhat, depending on the materials or medium being used. Gellert,Girgus, and Cohen (1973) found that children were very familiar with their own bodily appearance and could consistently identify themselves from photographs, even with the head obscured, and also from posterior views of their bodies. Gellert,Girgus, and Cohen (1973) also suggest the important need for studies of this type using subjects suffering from disorders such as schizophrenia, epilepsy, anorexia nervosa, or brain damage. Results from these types of studies would aid in better definition between normal and deviant perceptions of the body.

Swiss psychologist, Jean Piaget's (1956) theory of perception states that "the child draws what he knows rather than what he sees, and is not aware of this distinction (p.192)."

Florence Goodenough's (1931) theory differs only slightly in that "the child draws what he knows, and that his incomplete knowledge is responsible for his less than perfect drawing (p.506-507)."

Studies conducted by Luquet (1913,1927), Werner (1948), Piaget and Inhelder (1956), Goodenough (1926,1931), and Harris (1963) reached similar conclusions in that "the child's imperfect drawings reflect his conceptual confusion, his analysis of the object, and his inability to synthesize the several parts into a representation (p.385)."

Kinsbourne and Warrington (1963) infer from studies that

> the more realistic and detailed a person's body percept, the "healthier" are his sense of identity, his orientation in his spatial environment, and a host of other aspects of mental functioning (p.132).

Awareness of the relationships of the parts of the body is something which does not exist at birth. It is developed through experience with gesture, expression, and movement. According to Ogletree

> The development of body scheme is paralleled by the experience the child gains of his own body as compared to the experience of the bodies of others (p.52).

A study by Dale Harris (1950) found that children had a tendency to adopt both a characteristic size and proportion for dimensions of their drawings. Using four first grade classes as sub-

jects, Harris asked them to draw a man according to Goodenough's instructions, on each of ten school days. Each class performed the task under different conditions. One class received fifteen minutes of musical group games and exercises, with an emphasis on arm and leg movements, just before each day's drawings. A second class produced drawings without games and exercises. The third class received games and exercises during the first week, but not the second. The fourth class received games and exercises the second week, but not the first. Mean ratios were obtained for each of the eight groups. The results suggest that motor experiences are not projected into drawings; or, that a fifteen minute period is not long enough to produce a carry-over effect.

Goodenough (1926) conducted an experiment using a class of first graders. The class received two days of instruction for a thirty minute period. A drawing was obtained before and after training. A comparison of the drawings showed that 70 per cent of the children gained at least one point, 8 per cent showed neither gain nor loss, and 22 per cent showed a slight loss.

According to Krötzsch (1917), a child's experience of his own body and its movements is an extremely important part of his visual expressions.

In all aspects of investigation into the development of body scheme in normal children, the child's ability to discriminate and perceive is undergoing the biggest change about the age of six or seven. By the age of eight to ten the development of a stable body scheme has been more or less completed. If there is merit to the theory of using instruction to improve

body image, this age group of six to ten year old children is certainly an appropriate one to study.

Gellert,Girgus, and Cohen (1963) state that

> it is a common belief that special training and experiences that "improve" familiarity with one's own bodily characteristics will also result in improvements with respect to other, presumably related, areas of psychological functioning. Further research is needed to explore the specific consequences of various kinds of enhancement or impoverishment of body perception for other aspects of mental and physical functions (p.163).

The review of literature indicates the need for research in to the effects of instruction on children's perceptions and knowledge of body image. Research is inconclusive, at best, as to whether instruction can improve body image. It would seem appropriate that more research be conducted for this issue to be decided.

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